

Amended
30. (New) An electrical compression connector as in claim 24 wherein the flat side surface extends more than a third of a total height of the second conductor receiving channel.

REMARKS

In accordance with 37 C.F.R. §1.121 (as amended on 11/7/2000) the rewritten claim(s) above is/are shown on separate page(s), in the attached Appendix, marked up to show all the changes relative to the previous version of that claim.

Applicants' attorney hereby affirms the election of Group I (claims 1-21). Claims 22-23 have been canceled above without prejudice as being directed to a non-elected invention.

In regard to paragraph 6 of the office action, the art described in the data sheets is believed to be merely background art or cumulative art in view of the art now cited in the application.

In regard to paragraphs 7 and 8 of the office action, enclosed is a proposed drawing amendment. Please note that Figs. 3 and 4 are front elevational views of the connector; not cross-sectional views.

In regard to paragraph 9 of the office action, claims 1, 8-9 and 14 have been amended above to clarify the claim language. The scope of the claims has not been limited or narrowed by this amendment.

In regard to paragraphs 10-15, claims 1, 8-9 and 14 have been amended above to clarify the claim language. The scope of the

claims has not been limited or narrowed by this amendment. The examiner is requested to reconsider the rejections under 35 USC §112, second paragraph.

Claims 1-5 and 7-11 were rejected under 35 USC §102(b) as being anticipated by Schrader et al. (US 5200576). Claim 12 was rejected under 35 USC §103(a) as being unpatentable over Schrader et al. (US 5200576) in view of Burndy Electrical. Claims 15-17 were rejected under 35 USC §103(a) as being unpatentable over Schrader et al. (US 5200576) in view of Applicants' Own Admission (AOA). Claim 20 was rejected under 35 USC §103(a) as being unpatentable over Schrader et al. (US 5200576) in view of Applicants' Own Admission (AOA) and Burndy Electrical. The examiner is requested to reconsider these rejections.

Claims 13 and 21 have been converted from dependent form into independent form with small changes. In view of 24-26 of the office action, it is believed that these claims are now in condition for allowance.

Claim 6 has been canceled without prejudice above and its features have been added to claim 1 with a slight broadening of scope. In view of paragraph 24 of the office action, claim 1 should now be in condition for allowance.

Though dependent claims 2-5 and 7-12 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comment will be made.

Claims 18 and 19 have been canceled without prejudice above and their features have been added to claim 15 with a slight broadening. In view of paragraph 25 of the office action, claim 15 should now be in condition for allowance.

Though dependent claims 16-17 and 20 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 15. However, to expedite prosecution at this time, no further comment will be made.

Claims 24-30 have been added above to further claim the features recited therein. A paragraph has been added to the specification about to describe the features shown in the drawings as originally filed. No new matter has been added. New claim 24 is substantially similar to original claim 12. The examiner stated that it would have been obvious to modify Schrader to include a side surface with a flat shape as disclosed in Burndy. However, there is no disclosure or suggestion of adding a flat side between two opposing concave surfaces as recited in Claim 24.

Adding a flat side to the recess 26 in Schrader et al. would elongate the connector and perhaps prevent it from being inserted between the crimping tool dies 64, 66. The combination of two opposing concave surfaces having different shapes and a side surface between the two opposing concave surfaces having a substantially flat shape, and a third conductor receiving channel extending into a second lateral side is not disclosed or suggested in the cited art. The art of the present invention is a very crowded art. Improvements are often made with relatively small changes to the

compression connectors. However, these relatively small changes have major impacts on the use of the connectors with conductors when the connectors are crimped onto the conductors. With the present invention, the connector is desired to be used/compressed in a same tool and dies as a pre-existing connector, but with a larger conductor which the prior art connector could not capture all of its conductor strands during crimping (see page 11, lines 17-31, and page 13, lines 9-32).

Merely adding a flat section to Schrader et al. might elongate the connector and make in unsuitable for use with pre-existing compression tools and dies. Adding a flat section to Schrader et al. without elongation would reduce the area of the second conductor receiving channel; undesired by a person skilled in the art. Thus, all the strands of the conductor might not be located in the second conductor receiving channel when the connector is compressed. Thus, it does not appear obvious to combine Schrader et al. with Burndy to produce applicants' claimed invention. It is believed that claims 24-30 are patentable over the art of record.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issue remain, the Examiner is invited to call Applicants' Attorney at the telephone number indicated below.

Enclosed is a check for \$18.00 as payment for the extra claim fee. Please charge deposit account 50-1924 for any fee deficiency.

Respectfully submitted,

Mark F. Harrington 10/14/02
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October 14, 2002
Date

Victoria Parker
Name of Person Making Deposit

Appendix

Application No.: 09/902,034

Marked Up Claim(s)

1. (Amended) An electrical compression connector comprising:

a first section having a first conductor receiving channel extending into a top side of the connector; and

a second section integrally formed with the first section, the second section having a second and a third conductor receiving channel extending into opposite respective first and second [and third] lateral sides of the connector,

wherein the second conductor receiving channel comprises opposing concave surfaces having different shapes, wherein a first one of the concave surfaces has a first radius of curvature and a second one of the concave surfaces has a second different radius of curvature, and wherein the second radius of curvature is at least about 25% smaller than the first radius of curvature.

2. An electrical compression connector as in claim 1 wherein the first section comprises a general U-shape.

3. An electrical compression connector as in claim 1 wherein the first and second sections are integrally formed as an extruded member.

4. An electrical compression connector as in claim 1 wherein the first, second and third conductor receiving channels extend generally parallel to each other.

5. (Canceled)

6. (Canceled)

7. An electrical compression connector as in claim 1 wherein the second section comprises a curved cantilevered leg with a top surface forming a second one of the concave surfaces.

8. (Amended) An electrical compression connector as in claim 7 wherein an aperture is provided between a tip of the cantilevered leg and an opposing surface at the [second] first lateral side, and wherein an aperture is provided through the [third] second lateral side into the third conductor receiving channel.

9. (Amended) An electrical compression connector as in claim 1 wherein the second section further comprises a fourth conductor receiving channel extending into the [third] second lateral side of the connector.

10. An electrical compression connector as in claim 9 wherein the second section comprises a curved cantilevered leg having a top surface which forms a portion of the fourth conductor receiving channel.

11. An electrical compression connector as in claim 1 wherein the third conductor receiving channel comprises opposing concave surfaces having a same shape.

12. An electrical compression connector as in claim 1 wherein the second conductor receiving channel comprises a side surface between the opposing concave surfaces having a substantially flat shape.

13. (Amended) An electrical compression connector [as in claim 1] comprising:

a first section having a first conductor receiving channel extending into a top side of the connector; and

a second section integrally formed with the first section, the second section having a second and a third conductor receiving channel extending into opposite respective first and second lateral sides of the connector,

wherein the second conductor receiving channel comprises opposing concave surfaces having different shapes, and
wherein the third conductor receiving channel comprises opposing concave surfaces and a side surface between the opposing concave surfaces having a substantially flat shape.

14. (Amended) An electrical compression connector as in claim 13 wherein the second section further comprises a fourth conductor receiving channel extending into the [third] second lateral side of the connector, wherein the fourth conductor receiving channel is located below the third conductor receiving channel, and wherein the fourth conductor receiving channel comprises curved top, bottom and side surfaces having a same radius of curvature.

15. (Amended) An electrical compression connector and electrical conductor assembly comprising:

an extruded electrical compression connector comprising a first generally U-shaped section forming a first conductor receiving channel, and a second section integrally formed with the first section, the second section comprising a second conductor receiving channel with opposing first and second curved conductor contact surfaces each having a different radius of curvature, the second section having a bottom cantilevered curved leg forming the second contact surface; and

a class K electrical conductor located in the second conductor receiving channel,

wherein, when the connector is compressed onto the conductor, the leg is deformed towards the first contact surface, and wherein a second one of the radii of curvature is at least about 25% smaller than a first one of the radii of curvature.

16. An electrical compression connector as in claim 15 wherein the second section comprises a third conductor receiving channel on an opposite side of the second conductor receiving channel, the third conductor receiving channel having a smaller size than the second conductor receiving channel.

17. An electrical compression connector as in claim 16 wherein the second section comprises a fourth conductor receiving channel on the opposite side of the second conductor receiving channel and located below the third conductor receiving

channel, the fourth conductor receiving channel having a smaller size than the third conductor receiving channel.

18. (Canceled)

19. (Amended) An electrical compression connector as in claim [18] 15 wherein the second section comprises a curved cantilevered leg with a top surface forming a second one of the contact surfaces having the second radii of curvature.

20. (Canceled)

21. (Amended) An electrical compression connector [as in claim 20] and electrical conductor assembly comprising:

an extruded electrical compression connector comprising a first generally U-shaped section forming a first conductor receiving channel, and a second section integrally formed with the first section, the second section comprising a second conductor receiving channel with opposing first and second curved conductor contact surfaces each having a different radius of curvature, the second section having a bottom cantilevered curved leg forming the second contact surface; and

a class K electrical conductor located in the second conductor receiving channel,

wherein, when the connector is compressed onto the conductor, the leg is deformed towards the first contact surface,

wherein the second conductor receiving channel comprises a side surface between the opposing conductor contact

surfaces having a substantially flat shape, and wherein the second section further comprises a third conductor receiving channel having opposing concave surfaces and a side surface between the opposing concave surfaces with a substantially flat shape.

22. (Canceled)

23. (Canceled)

24. (New) An electrical compression connector comprising:

a first section having a first conductor receiving channel extending into a top side of the connector; and

a second section integrally formed with the first section, the second section having a second and a third conductor receiving channel extending into opposite respective first and second lateral sides of the connector,

wherein the second conductor receiving channel comprises opposing concave surfaces having different shapes, and a side surface between the opposing concave surfaces having a substantially flat shape.

25. (New) An electrical compression connector as in claim 24 wherein the third conductor receiving channel comprises opposing concave surfaces and a side surface between the opposing concave surfaces having a substantially flat shape.

26. (New) An electrical compression connector as in claim 24 wherein a first one of the concave surfaces has a first radius of curvature and a second one of the concave surfaces has a

second different radius of curvature, and wherein the second radius of curvature is at least about 25% smaller than the first radius of curvature.

27. (New) An electrical compression connector as in claim 24 wherein the second section comprises a width which is larger than a width of the first section.

28. (New) An electrical compression connector as in claim 24 wherein the opposing concave surfaces have about a same width.

29. (New) An electrical compression connector as in claim 24 wherein a top one of the opposing surfaces comprises an outer downward extending projection and a bottom one of the opposing surfaces comprises an outer upward extending tip, and wherein the projection and tip are located opposite each other.

30. (New) An electrical compression connector as in claim 24 wherein the flat side surface extends more than a third of a total height of the second conductor receiving channel.